

What is claimed is:

1. A medical device comprising:

a tubular member having a proximal end, a distal end, and a lumen therebetween; and

5 a filter removably inserted through the lumen of the tubular member.

2. The medical device of claim 1, wherein the tubular member is fixed to an outer surface of a cannula.

- 10 3. The medical device of claim 2, wherein the cannula has a proximal end adapted to receive blood from a bypass-oxygenator machine.

4. The medical device of claim 1, wherein the filter comprises:
a shaft having a proximal end and a distal end, wherein the distal end of said
15 shaft is inserted in said tubular member while the proximal end of said shaft extends outside of said tubular member;

an expansion frame mounted on the distal end of the shaft, wherein said frame is expandable between a contracted condition and an enlarged condition, wherein said expansion frame is deployable through a distal opening of said lumen; and

20 a filter attached to the expansion frame.

5. The medical device of claim 1, wherein the tubular member provides a hemostatic seal between the filter and the lumen.

6. The medical device of claim 4, wherein the expansion frame comprises a self-expanding material.

7. The medical device of claim 6, wherein the self-expanding material is a thin gauge metal.

8. The medical device of claim 6, wherein the self-expanding material is a shape-memory material.

9. The medical device of claim 4, wherein the expansion frame comprises an umbrella structure.

10. The medical device of claim 4, wherein the expansion frame comprises a plurality of struts.

11. The medical device of claim 4, wherein the expansion frame comprises a plurality of compressed springs.

12. The medical device of claim 1, wherein the tubular member further comprises a suture flange.

13. The medical device of claim 2, wherein the lumen of the tubular member merges and communicates with a lumen of the cannula.